UNITED STATES PATENT AND TRADEMARK OFFICE

UNITED STATES DEPARTMENT OF COMMERCE
United States Patent and Trademark Office
Address: COMMISSIONER FOR PATENTS
P.O. Box 1450
Alexandria, Virginia 22313-1450
www.uspto.gov

APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
10/667,151	09/18/2003	Sheng-Ping Zhong	03-151US1 (4010/60)	8726

27774 7590 05/24/2011

MAYER & WILLIAMS PC
251 NORTH AVENUE WEST
Suite 201
WESTFIELD, NJ 07090

EXAMINER	
WELTER, RACHAEL E	
ART UNIT	PAPER NUMBER
1611	

MAIL DATE	DELIVERY MODE
05/24/2011	PAPER

Please find below and/or attached an Office communication concerning this application or proceeding.

The time period for reply, if any, is set in the attached communication.

UNITED STATES PATENT AND TRADEMARK OFFICE

Commissioner for Patents
United States Patent and Trademark Office
P.O. Box 1450
Alexandria, VA 22313-1450
www.uspto.gov

BEFORE THE BOARD OF PATENT APPEALS AND INTERFERENCES

Application Number: 10/667,151
Filing Date: September 18, 2003
Appellant(s): ZHONG ET AL.

Keum J. Park
Registration No. 42,059
For Appellant

EXAMINER'S ANSWER

This is in response to the appeal brief filed December 31, 2010 appealing from the Office action mailed June 23, 2009.

1) Real Party in Interest

The Examiner has no comment on the statement, or lack of statement, identifying by name the real party in interest in the brief.

(2) Related Appeals and Interferences

The Examiner is not aware of any related appeals, interferences, or judicial proceedings which will directly affect or be directly affected by or have a bearing on the Board's decision in the pending appeal.

(3) Status of Claims

The following is a list of claims that are rejected and pending in the application:

Claims 1-39 are pending.

Claims 1-21 and 38-39 are rejected.

(4) Status of Amendments After Final

The Examiner has no comment on the Appellant's statement of the status of amendments after final rejection contained in the brief.

(5) Summary of Claimed Subject Matter

The Examiner has no comment on the summary of claimed subject matter contained in the brief.

(6) Grounds of Rejection to be Reviewed on Appeal

The Examiner has no comment on the Appellant's statement of the grounds of rejection to be reviewed on appeal. Every ground of rejection set forth in the Office action from which the appeal is taken (as modified by any advisory actions) is being maintained by the examiner except for the grounds of rejection (if any) listed under the

subheading "WITHDRAWN REJECTIONS." New grounds of rejection (if any) are provided under the subheading "NEW GROUNDS OF REJECTION."

(7) Claims Appendix

The Examiner has no comment on the copy of the appealed claims contained in the Appendix to the Appellant's brief.

(8) Evidence Relied Upon

20030092689	Escandon et al.	5-2003
6,667,061	Ramstack et al.	12-2003
3,869,546	Lund	3-1975
5,147,631	Glajch et al.	11-1992
7,175,829	Lauffer et al.	2-2007
5,614,204	Cochrum	3-1997

9) Grounds of Rejection

The following ground(s) of rejection are applicable to the appealed claims:

A.) Claims 1-6, 11-12, and 20-21 are rejected under 103(a) as being unpatentable over Escandon et al. (US Patent Application Pub. No. 2003/0092689).

Escandon et al teach a method of chemically ablating prostate tissue comprising injecting an effective amount of ethanol or an injectable gel comprising ethanol into prostate tissue (paras. 0031-0037; see also reference claim 6), wherein the ethanol is medical-grade ethanol (also known as anhydrous alcohol, absolute alcohol, or absolute ethyl alcohol; para. 0061). Escandon et al state that the ablating action of the ethanol is

due to several processes, including dehydration of cells, coagulation of proteins, and thrombosis of vessels that feed the tissue (para. 0044, last three lines). Escandon et al disclose that chemical ablation may be achieved, for example, by direct injection of a chemoblation fluid into a patient's prostate, or may be preferably injected deeply into the prostate tissue through a needle that is positioned transurethrally, such as in the procedure known as transurethral ethanol ablation of the prostate (TEAP); the terms "ablate, ablation, or ablating means causing a decrease in the number of tissue cells (paras. 0043-0044). Escandon et al state that the total amount of ethanol injected will depend on a variety of factors, including, but not limited to, the size and shape of the prostate and the nature and degree of the prostate disease (para. 0055). Escandon et al disclose that a number of methodologies can be used to estimate prostate volume, including magnetic resonance imaging (MRI), transrectal ultrasonography (TRUS), digital rectal examination (DRE). See para. 0055. Escandon et al teach that optionally, the chemoablation fluid to be injected may be combined with an additional additive that enhances delivery or distribution of the chemoablation fluid within the prostate tissue, or that enhances the efficacy of the chemoablation fluid (para. 0062). Escandon et al teach that said additive can be added to the chemoablation fluid to form an injectable gel, for example, a medical-grade gelling agent such as Gelfoam Sterile Powder, which is a gelatin powder (para. 0063). Escandon et al teach suitable alternative chemoablation agents include toxins, concentrated saline solution, other alcohols (e.g. phenol). See paras. 0066-0068. Escandon et al teach that methods of necrosing hyperplastic prostate tissue may be conducted by a variety of surgical and non-surgical

techniques, including irradiation (e.g. with microwave energy, radiofrequency, ultrasound, nuclear radiation, x-rays, or laser ablation), chemical ablation, application of heat (= thermal ablation), freezing the tissue (cryoablation). Escandon et al state that a medication that induces damage to prostate may be utilized, wherein said medication is delivered orally, intravenously, systemically, transcutaneously or by other suitable delivery mechanisms (para. 0102). Escandon et al teach embodiments wherein an additive is added to the chemoablation fluid to form an injectable gel e.g. a gelling agent such as GELFOAM Sterile Powder (Pharmacia & Upjohn, Kalamazoo, Mich.; para. 0063); GELFOAM is a gelatin powder consisting of particles in the 40-60 micron size range and is commonly used as an embolizing agent (para. 0063). In addition, Escandon et al state that an additive for enhancing visibility of the chemoablation fluid may be incorporated in the ablation fluid e.g. the additive may comprise a dye for enhancing visualization of the chemoablation fluid during injection (paras. 0063-0064). Escandon et al state that better visualization of the chemoablation fluid may assist some surgeons to more effectively deliver the chemoablation fluid to the prostate tissue and to avoid undesirable backflow, wherein the dye may include methylene blue, indigo carmine, india ink, malachite green, indocyanine green, and toluidine blue (para. 0064). Also, Escandon et al teach alternative ablation agents, including a suitable alcohol and phenol (carbolic acid), which have been injected prostatically to ablate prostate tissue as a treatment for BPH (para. 0067). Escandon et al disclose that a sterile aqueous mixture of phenol, glacial acetic acid, and glycerine is known in the art (para. 0067).

However, Escandon et al do not exemplify applicant's claimed invention wherein the chemical ablation agent and biodisintegrable viscosity adjusting agent are present in a sterile injectable formulation as claimed.

It would have been obvious to a person of skill in the art at the time the invention was made to prepare a sterile injectable ablation formulation comprising ethanol (= chemical ablation agent) and Gelfoam (= biodisintegrable viscosity adjusting agent) for use in chemically ablating prostatic tissue (para. 0063). One would have been motivated to do so because Escandon et al teach chemoablation fluids that may comprise ethanol and Gelfoam sterile powder for injection for use in the ablation fluid of prostatic tissue. Therefore, one would reasonably expect to prepare said ablation fluid as a sterile injectable formulation since Escandon et al suggest that injectable formulation can be prepared as a sterile aqueous chemoablation formulation as evidenced by the disclosure that a chemoablation formulation comprising a mixture of phenol, glacial acetic acid, and glycerine is known in the art (para. 0067). Besides, it is routine in the medical art to prepare injectable formulations that are intended to be injected into the human body in a sterile form to ensure that injectable formulations are free of microorganisms upon injection into said human body to prevent unintended microbial infections following the injection of said formulations in a human.

Regarding the term "a chemical ablation agent in an amount effective to cause necrosis" as recited in claim 1, Escandon et al teach chemoablation gel compositions comprising a chemoablation agent (e.g. ethanol = component "a"; 0063) and therefore one would reasonably expect that the ethanol would be present in an amount effective

to cause tissue necrosis. Besides, Escandon et al teach a method of chemically ablating prostate tissue comprising injecting an effective amount ethanol or an injectable gel comprising ethanol into prostate tissue (paras. 0031-0037; see also reference claim 6).

Regarding the term “a biodisintegrable viscosity adjusting agent in an amount effective to render the formulation highly viscous” as recited in claim 1, Escandon et al teach chemoablation gel compositions comprising a gelling agent, Gelfoam (para. 0063). Since Gelfoam is a gelling agent one would reasonably expect that the presence of Gelfoam in the composition would render the composition viscous. Further, GELFOAM is a gelatin powder and therefore reads on the term "a biodisintegrable viscosity adjusting agent in an amount effective to render the formulation highly viscous" because one would reasonably expect that gelatin would disintegrate (= biodisintegrable) following its injection into the body. Since Gelfoam is a gelling agent, one would reasonably expect that chemoablation fluids comprising Gelfoam would be rendered highly viscous because gels are known in the art to be highly viscous when compared to conventional liquid formulations.

With respect to the term “wherein said injectable ablation agent is a sterile injectable formulation," one would reasonably expect to formulate the chemoablation injectable gel formulation of Escandon et al in a sterile injectable formulation since it is routine in the art to prepare sterile formulations that are intended to be injected into the human body and Escandon et al teach a chemoablation injectable gel formulation that is also intended to be injected in the prostatic tissue of a human.

Regarding claim 2, Escandon et al teach suitable alternative chemoablation agents including concentrated saline solution (paras. 0066-0068), which is identical to applicant's claimed osmotic-stress generating agent.

Regarding claims 3-4, Escandon et al teach ethanol as an ablation agent and ethanol is an organic compound (paras. 0031-0037; see also reference claim 6)

Regarding claims 5-6, the above discussion of claim 2 is incorporated by reference.

Regarding claims 11-12, Escandon et al teach that additives can be added to the chemoablation fluid to form an injectable gel, for example, a medical-grade gelling agent such as Gelfoam Sterile Powder (para. 0063), which reads on the term "wherein said viscosity adjusting agent comprises a polypeptide" as recited in claim 11 and the term "wherein said viscosity adjusting agent is selected from gelatin and collagen" as recited in claim 12 since Gelfoam is a gelatin powder.

Regarding claim 20, it would have been obvious to a person of skill in the art at the time the invention was made to prepare an injectable formulation comprising a plurality of ablation agents for additive therapeutic effects. One would have been motivated to do so because Escandon et al suggest that a variety of surgical and non-surgical necrosing methods may be used to induce necrosis of hyperplastic prostate tissue (para. 0093) such that one would reasonably expect to successfully combine a plurality of chemoablation agents (e.g. ethanol and hypertonic saline) to the injectable formulation of Escandon et al absent objective evidence to the contrary.

Regarding claim 21, Escandon et al disclose that an aqueous ablation formulation comprising phenol, glacial acetic acid, and glycerine is known in the art (para. 0067) such that one would reasonably expect to add any suitable solvent (e.g. water) to the composition of Escandon et al to solubilize the active components in the formulation depending on the solubility of the specific components employed in the formulation.

B.) Claims 9-10, 13, and 19 are rejected under 103(a) as being unpatentable over Escandon et al. (US Patent Application Pub. No. 2003/0092689), in view of Ramstack et al. (US Patent 6,667,061).

The above discussion of Escandon et al is incorporated by reference. This reference is silent regarding the specific instantly claimed viscosity adjusting agents and the instant claimed viscosity limitations.

Ramstack et al teach injectable compositions, including injectable suspension, having improved injectability (col. 1, lines 17-25). Ramstack et al teach that conventional parenteral suspensions are dilute, with limitations for viscosity because of syringeability and injectability constraints (col. 2, lines 36-39). In particular, Ramstack et al teach an aqueous injection vehicle that consists of 3% by volume sodium carboxymethyl cellulose, 1% polysorbate 20, and 0.9% sodium chloride, and a remaining percentage by volume water (col. 3, lines 1-17). Ramstack et al teach that the composition may also comprise a viscosity enhancing agent (col. 3, lines 13-49). Ramstack et al state that injectability is improved by increasing the viscosity of the fluid phase of an injectable suspension (col. 4, lines 57-62), which is in contrast to the

conventional teachings that an increase in viscosity hinders injectability and syringeability (col. 4, lines 57-62). Ramstack et al teach viscosity enhancing agents such as sodium carboxymethyl cellulose (CMC), preferably having a viscosity of from about 1000 to about 2000 cp at 20 degrees Centigrade (col. 12, lines 13-21), but may also include, polyvinylpyrrolidone (PVP e.g. Plasdone), hydroxypropyllmethylcellulose (HPMC e.g. Methocel). See col. 13, lines 41-60). Ramstack et al teach wetting agents such as polysorbate 20 (Tween 20), polysorbate 40 (Tween 40), and polysorbate 80 (Tween 80; col. 16, line 1)

It would have been obvious to a person of skill in the art at the time the invention was made to combine the teachings of the cited references by adding any suitable biodisintegrable viscosity adjusting agent as taught by Ramstack et al (e.g. sodium carboxymethyl cellulose) or a plurality of said agents to improve the syringeability and injectability of the formulation. One would have been motivated to do so because Ramstack et al suggest that increasing the viscosity of injectable formulations with the use of viscosity enhancing agents (e.g. carboxymethyl cellulose) improves the syringeability and injectability of injectable formulations (col. 4, lines 63-67; col. 6, lines 9-19; and col. 7, lines 37-39; and col. 12, lines 13-16), Escandon et al also teach that optionally, the chemoablation fluid to be injected may be combined with an additional additive that enhances delivery or distribution of the chemoablation fluid within the prostate tissue, or that enhances the efficacy of the chemoablation fluid (para. 0062).

Further, it would have been obvious to a person of skill in the art at the time the invention was made to manipulate the viscosity of the formulation by using a viscosity

enhancing agent, including arriving at applicant's claimed viscosity range, to optimize the injectability and syringeability of the ablation formulation. One would have been motivated to do so because Ramstack et al suggest injectable compositions comprising viscosity enhancing agents wherein the viscosity is at least 20 cps have good syringeability and injectability and Escandon et al teach injectable gel formulations comprising gelfoam which also enhance the viscosity of the formulation. Hence, one would reasonably expect to successfully manipulate the viscosity of the formulation of Escandon et al to arrive at the instant claimed viscosity limitations since Ramstack et al suggest that increasing the viscosity of injectable formulations improve the syringeability and injectability of injectable formulation absent objective evidence to the contrary.

Regarding claims 9-10, Ramstack et al teach sodium carboxymethyl cellulose (col. 3, lines 1-17), which reads on the term "wherein said viscosity adjusting agent comprises a polysaccharide" as recited in claim 9 and the term "carboxymethyl cellulose and its salts" as recited in claim 10.

Regarding claim 13, Ramstack et al teach preferred viscosity enhancing agents, including polyvinylpyrroildone (PVP; col. 13, lines 13-22), which overlap with the instant claimed viscosity adjusting agents.

Regarding claim 19, it would have been obvious to a person of skill in the art at the time the invention was made to use any suitable viscosity enhancing agent(s) as taught by Ramstack et al to the chemoablation fluid of Escandon et al, including using a plurality of viscosity adjusting agents as claimed, depending on the desired characteristics of the formulation. One would have been motivated to do so because

Ramstack et al suggest that syringeability and injectability of injectable formulations can be varied by the use of viscosity enhancing agents (col. 4, lines 63-67; col. 6, lines 9-19; and col. 7, lines 37-39; and col. 12, lines 13-16) and Escandon et al teach formulations that may comprise a gelling agent and therefore one would reasonably expect to manipulate the number of viscosity enhancing agents used in the formulation encompassed to optimize the syringeability and injectability of the chemoablation formulation encompassed by the prior art absent objective evidence to the contrary.

Thus, one would have deemed it obvious to create the instant claimed invention with reasonable predictability.

C.) Claims 7-8 are rejected under 103(a) as being unpatentable over Escandon et al. (US Patent Application Pub. No. 2003/0092689), in view of Ramstack et al. (US Patent 6,667,061), in further view of Lund (US Patent 3,869,546).

The above discussions of Escandon et al and Ramstack et al are incorporated by reference. These references do not teach the instant claimed viscosity ranges.

Lund teach improved injectable mixtures containing biologics, a polymer, and an electrolyte having a viscosity of about 500 to about 50,000 cps, depending on the relative concentration of the polymer (col. 6, lines 36-46). Lund state that the viscosity of polymer-electrolyte adjuvant solutions should generally be about several hundred to a few thousand centipoise for ease of passing through hypodermic needles (col. 4, lines 39-42).

It would have been obvious to a person of skill in the art at the time the invention was made to combine the teachings of the cited references to manipulate the viscosity of the ablation formulation encompassed by the prior art to optimize the injectability of the formulation. One would have been motivated to do so because Lund suggest that the viscosity of formulations that are injected via hypodermic needles should be about 500 to about 50,000 cps, depending on the relative concentration of the polymer (col. 6, lines 36-46) and Ramstack et al also state that injectability is improved by increasing the viscosity of the fluid phase of an injectable suspension (col. 4, lines 57-62). Hence, one would reasonably expect to successfully manipulate the viscosity of the formulation of Escandon et al in order to enhance its injectability because Escandon et al teach formulations for injection.

It is noted that the viscosity range taught by Lund overlaps with the instant claimed viscosity ranges recited in claims 7 and 8.

Thus, one would have deemed it obvious to create the instant claimed invention with reasonable predictability.

D.) Claims 14 and 16-18 are rejected under 103(a) as being unpatentable over Escandon et al. (US Patent Application Pub. No. 2003/0092689), in view of Glajch et al. (US Patent 5,147,631).

The above discussion of Escandon et al is incorporated by reference. Escandon et al do not teach solid imaging particles or ultrasound contrast agents.

Glajch et al teach ultrasound contrast agents comprising porous particles of an inorganic material having an average particle diameter of about 0.05 to 500 microns and

containing entrapped gas or liquid; the inorganic material includes monomeric and polymeric forms of one or more of the following: borates, aluminas, carbonates, silicates, silicas, aluminosilicates, phosphates, and organic or inorganic cationic salts thereof (column 2, lines 11-27).

It would have been obvious to a person of skill in the art at the time the invention was made to combine the teachings of the cited references by adding any suitable solid imaging contrast agent (e.g. inorganic material comprising a monomeric or polymeric form of a silicate) to enhance the visualization of the ablation fluid. One would have been motivated to do so because Escandon et al suggest that optionally additives can be added to the ablation fluid to enhance visualization of the ablation fluid and ultrasound contrast agents taught by Glajch et al are used to enhance visualization of body parts. In addition, Escandon et al disclose that a number of methodologies can be used to estimate prostate volume, including magnetic resonance imaging (MRI), transrectal ultrasonography (TRUS) and digital rectal examination (DRE; para. 0055) such that one would reasonably expect to add an ultrasonic imaging contrast agent in the form of solid particles to the chemoablation fluid to determine the prostatic volume since Escandon et al suggest that magnetic resonance imaging (MRI), and transrectal ultrasonography (TRUS) can be used to estimate prostatic volume.

Regarding claims 14 and 16, Glajch et al teach ultrasound contrast agents comprising porous particles (column 2, lines 11-27), which overlaps with the instant claims.

With respect to claim 17, it is noted that the term “wherein the ultrasonic imaging agent contrast agent comprises a plurality of solid particles" does not require the plurality of particles to be different from each other.

Regarding claim 18, Glajch et al. teach silicate particles (col. 2, lines 11-27). Thus, one would have deemed it obvious to create the instant claimed invention with reasonable predictability.

E.) Claim 15 is rejected under 103(a) as being unpatentable over Escandon et al. (US Patent Application Pub. No. 2003/0092689), in view of Glajch et al. (US Patent 5,147,631) and Lauffer et al. (US Patent 7,175,829).

The above discussion of Escandon et al is incorporated by reference. However, this reference does not teach MRI contrast imaging agents.

Lauffer et al teach a method for contrast-enhanced diagnostic imaging, particularly MRI, of a specific tissue or tissue component (col. 4, line 65 to col. 5, line 1). Lauffer et al disclose that diagnostic imaging technique has been used to monitor interventional therapies, which include targeting an undesired tissue or tissue component with high thermal energy using focused ultrasound (col. 2, lines 4-41). Lauffer et al state that a goal of interventional therapies is the treatment of undesirable tissue or tissue component, such as cancerous, tumorous, neoplastic tissue or tissue component, by causing necrosis, ablation, coagulation, or denaturation of such tissue (col, 2, lines 37-41). To obtain the maximum benefit from such interventional methods, and to minimize side effects (e.g. damage to adjacent tissues), it is essential to monitor, in vivo, the efficacy of the therapy (col. 2, lines 42-54). Lauffer et al teach methods

comprising administering to a patient a contrast agent capable of binding to a targeted tissue or tissue component that is undergoing or has undergone interventional therapy; wherein said patient is subjected to one of MRI, ultraviolet light, visible light or infrared imaging; and further wherein said method involves monitoring an imaging signal characteristic of the contrast agent to determine whether the interventional therapy is completed (col. 6, lines 9-27).

It would have been obvious to a person of skill in the art at the time the invention was made to combine the teachings of the cited references to employ contrast imaging agents (e.g. MRI or ultrasound) as taught by Lauffer et al to monitor the effect of the ablative therapy. One would have been motivated to do so because Lauffer et al suggest that contrast imaging agents are useful to monitor the efficacy of interventional therapies such as ablative therapies (col. 2, lines 42-54) and Escandon et al disclose that a number of methodologies can be used to estimate prostate volume, including magnetic resonance imaging (MRI; para. 0055) such that one would reasonably expect to add MRI imaging contrast agent to the ablation formulation to monitor the efficacy of the ablation therapy.

Regarding claim 15, Lauffer et al teach MRI imaging contrast agents (col. 6, lines 9-27).

Thus, one would have deemed it obvious to create the instant claimed invention with reasonable predictability.

F.) Claims 38-39 are rejected under 103(a) as being unpatentable over Escandon et al. (US Patent Application Pub. No. 2003/0092689), in view of Cochrum (US Patent 5,614,204).

The above discussion of Escandon et al is incorporated by reference. However, this reference does not teach the instant claimed ionically crosslinkable polymer.

Cochrum teach angiographic occlusion agents prepared from a biocompatible polymer alone to achieve a permanent occlusion or in combination with a platelet-rich plasma concentrate to achieve a semi-permanent or temporary occlusion (col. 1, lines 8-22). Cochrum exemplify sodium alginate spheres for use as a permanent angiographic vascular occlusion agent (col. 16, Example 1). Cochrum teach vascular occlusion agents for various uses, including embolic therapy for organ ablation (col. 15, lines 5-25). Cochrum teach that selective vascular embolization has been employed to treat, for example, acute hemorrhage vascular tumors and organ ablation (col. 1, lines 27-31). Cochrum state that materials such as Gelfoam, and other particulate materials, are useful occlusion materials (col. 2, lines 24-26).

It would have been obvious to a person of skill in the art at the time the invention was made to combine the teachings of the cited references by adding an angiographic occlusion agent (e.g. sodium alginate spheres = ionically crosslinkable polymer) as taught by Cochrum to the injectable chemoablation formulation of Escandon et al for additive ablative effect. One would have been motivated to do so because Cochrum suggest that sodium alginate and Glefoam are useful occlusion agents for use in organ ablation therapy (col. 1, lines 27-31) and Escandon et al state that the ablating action of

the ethanol is due to several processes, including dehydration of cells, coagulation of proteins, and thrombosis of vessels that feed the tissue (para. 0044, last three lines). Since Cochrum suggest embolic occlusive agents (e.g. sodium alginate) are desirable for use in organ ablation therapy (col. 1, lines 27-31), one would reasonably expect to add an said embolic occlusive agent to the ethanol/Gelfoam formulation as taught be Escandon et al to improve the ablative properties of the formulation. It is noted that Cochrum teach sodium alginate spheres, which reads on the term "ionically crosslinkabel polymer" as recited in claim 38 and the term "an alginate polymer" as recited in claim 39.

Thus, one would have deemed it obvious to create the instant claimed invention with reasonable predictability.

(10) Response to Arguments

Rejection A.)

Appellant argues that nowhere within the four corners of Escandon is there a claim that GELFOAM is a biodisintegrable viscosity adjusting agent. Appellant notes that the terms "viscous" or "viscosity" or "viscosity adjusting agent" do not appear anywhere within Escandon. Appellant submits that the Examiner is making an improper inherency argument because there is no requisite proof. Appellant argues that the Examiner has failed to meet his burden of showing how Escandon teaches or suggests each and every element of the claimed invention.

However, the Examiner respectfully disagrees with Appellant that GELFOAM is not a biodisintegrable viscosity adjusting agent. The Examiner directs Appellant's attention to paragraph 0063 of Escandon, which is incorporated below.

> [0063] In some embodiments of the invention, an additive is added to the chemoablation fluid to form an injectable gel. By way of example, a suitable additive for forming an **injectable gel** is a medical-grade gelling agent. One such gelling agent is **GELFOAM** Sterile Powder (Pharmacia & Upjohn, Kalamazoo, Mich.). GELFOAM is a gelatin powder consisting of particles in the 40-60 micron size range and is commonly used as an embolizing agent. **In particular, ethanol may be combined with an additive such as GELFOAM to form an injectable gel.** In another embodiment, an additive such as a gelling agent may be injected sequentially, either before or after injection of ethanol.

Although Escandon does not explicitly state that GELFOAM is associated with modifying viscosity, any ordinary skilled artisan knows that a gelling agent would necessarily change the viscosity of a composition. Since gelling agents thicken liquid compositions, an artisan would reasonably expect that GELFOAM would affect the viscosity of Escandon's composition. Additionally, since Escandon teach that GELFOAM is a gelatin powder and is injected into the body, one would reasonably expect that the powder would have the ability to disintegrate in the body. Absent any specific definition of "biodisintegrable viscosity adjusting agent" in the specification and claims directed to a more specific "biodisintegrable viscosity adjusting agent," Appellant's argument is unpersuasive.

Appellant further argues that GELFOAM is commonly used as an embolizing agent and one of skill in the art would not read "embolizing agent" and be led to utilize the GELFOAM as a viscosity adjusting agent. Appellant argues that one would be taught away from utilizing GELFOAM as a viscosity adjusting agent since it may cause the chemical ablation agent to cause an obstruction or clog when utilized as an

injectable formulation. Appellant notes that Cochrum teaches the disadvantages of GELFOAM. According to Cochrum, GELFOAM has to be injected in solid foam form and often blocks the catheter. Cochrum further states that guidewire must be used to push and fragment the GELFOAM. Appellant further argues that the Examiner is required to consider the entire record and given the totality of the teachings of record, one of skill in the art would not be motivated to combine the claimed chemical ablation agent with GELFOAM.

The Examiner acknowledges the requirement that one must consider the entire teachings of record. However, Appellant's argument that one would be taught away from using GELFOAM and a chemical ablation agent together is unpersuasive. In paragraph 0063 above, Escandon clearly suggests the combination of GELFOAM and the chemical ablation agent, ethanol. Cochrum's teachings and GELFOAM's use as an embolizing agent is noted but these secondary teachings do not indicate that GELFOAM and a chemical ablation agent cannot be formulated together and that the combination would affect the composition's function. Even though Cochrum cites some disadvantages of using GELFOAM in an injectable composition; it does not mean that its use in an injectable composition with a chemical ablation agent is non-obvious. According to MPEP 2123, "A known or obvious composition does not become patentable simply because it has been described as somewhat inferior to some other product for the same use." *In re Gurley, 27 F.3d 551, 554, 31 USPQ2d 1130, 1132 (Fed. Cir. 1994).* Furthermore, Appellant has provided no objective evidence that GELFOAM and a chemical ablation agent are incompatible in an injectable composition.

According to MPEP 716.01, "Objective evidence which must be factually supported by an appropriate affidavit or declaration to be of probative value includes evidence of unexpected results, commercial success, solution of a long-felt need, inoperability of the prior art, invention before the date of the reference, and allegations that the author(s) of the prior art derived the disclosed subject matter from the applicant." See, for example, *In re De Blauwe, 736 F.2d 699, 705, 222 USPQ 191, 196 (Fed. Cir. 1984)* ("It is well settled that unexpected results must be established by factual evidence." Appellant's arguments are mere speculation. Since the Examiner established a prima facie case of obviousness, burden is on Appellant to overcome this rejection by objectively showing unexpected results or inoperability of the prior art's invention.

As such, it is the Examiner's position that the rejection should be maintained for the reasons stated above.

Rejections B.)-F.)

Appellant argues that the secondary references do not remedy the deficiencies of Escandon. Appellant submits that any conclusion of obviousness drawn from Escandon can only be based on the use of undue hindsight.

In response to applicant's argument that the examiner's conclusion of obviousness is based upon improper hindsight reasoning, it must be recognized that any judgment on obviousness is in a sense necessarily a reconstruction based upon hindsight reasoning. But so long as it takes into account only knowledge which was within the level of ordinary skill at the time the claimed invention was made, and does not include knowledge gleaned only from the applicant's disclosure, such a

reconstruction is proper. See *In re McLaughlin*, 443 F.2d 1392, 170 USPQ 209 (CCPA 1971). The Examiner reiterates that explicit motivation is provided in Escandon to add GELFOAM and the chemical ablation agent (ethanol) together in paragraph 0063 above. No motivation was gleaned from Appellant's disclosure and Appellant is directed to the Examiner's arguments regarding Escandon above. These arguments are incorporated herein. Furthermore, the secondary references, Ramstack, Lund, Glajch, Lauffer, and Cochrum were only cited as motivation in utilizing specific viscosity adjusting agents, the instant kinematic viscosity, imaging contrast agents, MRI imaging contrast agents, and ionically crosslinkable polymers. Appellant has not argued these secondary teachings.

Thus, it is the Examiner's position that the rejections should be sustained for the reasons stated above.

Respectfully submitted,

/RACHAEL E WELTER/

Examiner, Art Unit 1611

5/17/11

Conferees:

/SHARMILA G. LANDAU/

Supervisory Patent Examiner, Art Unit 1611

/Frederick Krass/

Supervisory Patent Examiner, Art Unit 1612